Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) An exposure apparatus which illuminates a pattern of a first object with ultraviolet light from a laser device and exposes a second object with the ultraviolet light from the first object, wherein

the laser device includes:

a laser light generation section which generates laser light ~~of a single wavelength, the single wavelength being one of a plurality of wavelengths associated with light of a light range ranging from a visible light region to an infrared light region~~ having a single wavelength within a wavelength range ranging from an infrared band to a visible band;

an optical amplification section including plural stages of optical fiber amplifiers which serially amplify the laser light generated by the laser light generation section, and a narrow band filter and an isolator disposed between the plural stages of the optical fiber amplifiers; and

a wavelength conversion section which performs wavelength conversion of the laser light amplified by the optical amplification section into a wavelength associated with ultraviolet light by using a nonlinear optical crystal.

2. (Previously Presented) An exposure apparatus as recited in claim 1, wherein

the laser device includes an excitation-light generating light source which generates excitation light for use with at least one of the plural stages of the optical fiber amplifiers, and the optical amplifier coupled to the narrow band filter is formed such that a reflection film which reflects the excitation light is formed at one end.

3. (Previously Presented) An exposure apparatus as recited in claim 1, wherein

the narrow band filter and the isolator reduce noise of a wavelength corresponding to a phonon sideband.

4. (Previously Presented) An exposure apparatus as recited in claim 1, wherein at least three stages of the optical fiber amplifiers are provided, and the narrow band filter and the isolator are respectively provided between the optical fiber amplifiers.

5. (Previously Presented) An exposure apparatus as recited in claim 1, wherein a gate device, which performs timewise removal of ASE (amplified spontaneous emission), is further provided between the plural stages of the optical fiber amplifiers.

6. (Currently Amended) An exposure apparatus which illuminates a pattern of a first object with ultraviolet light from a laser device and exposes a second object with the ultraviolet light from the first object, wherein

the laser device includes:

a laser light generation section which generates laser light of a single wavelength, ~~the single wavelength being one of a plurality of wavelengths associated with light of a light range ranging from a visible light region to an infrared light region~~ having a single wavelength within a wavelength range ranging from an infrared band to a visible band;

an optical amplification section including plural stages of amplifying optical fibers which serially amplify the laser light generated by the laser light generation section, an excitation-light generating light source which generates excitation light for at least one stage of the amplifying optical fiber of the plural stages of the amplifying optical fibers, at least one of a narrow band filter and an isolator disposed between the plural stages of the amplifying optical fibers, and a bypass member which passes the excitation light in parallel to the at least one of the narrow band filter and the isolator; and

a wavelength conversion section which performs wavelength conversion of the laser light amplified by the optical amplification section into a wavelength associated with ultraviolet light by using a nonlinear optical crystal.

7. (Currently Amended) An exposure apparatus which illuminates a pattern of a first object with ultraviolet light from a laser device and exposes a second object with the ultraviolet light from the first object, wherein

the laser device includes:

a laser light generation section which generates laser light ~~of a single wavelength, the single wavelength being one of a plurality of wavelengths associated with light of a light range ranging from a visible light region to an infrared light region~~ having a single wavelength within a wavelength range ranging from an infrared band to a visible band;

an optical amplification section including plural stages of optical fiber amplifiers which serially amplify the laser light generated by the laser light generation section, a plurality of excitation-light generating light sources which individually generate excitation lights for each of the plural stages of the optical fiber amplifiers, and a narrow band filter disposed between the plural stages of the optical fiber amplifiers, wherein a reflection film which reflects the excitation light is formed at one end of each of the optical fibers coupled to both sides of the narrow band filter; and

a wavelength conversion section which performs wavelength conversion of the laser light amplified by the optical amplification section into a wavelength associated with ultraviolet light by using a nonlinear optical crystal.

8. (Currently Amended) An exposure apparatus which illuminates a pattern of a first object with ultraviolet light from a laser device and exposes a second object with the ultraviolet light from the first object, wherein

the laser device includes:

a laser light generation section which includes a single wavelength oscillatory laser and an optical modulation section and which pulse-generates laser light ~~of a single wavelength, the single wavelength being one of a plurality of wavelengths associated with light of a light range ranging from a visible light region to an infrared light region~~ having a single wavelength within a wavelength range ranging from an infrared band to a visible band;

an optical amplification section including an optical fiber amplifier which amplifies the pulsed light generated from the laser light generation section; and

a wavelength conversion section which performs wavelength conversion of the pulsed light amplified by the optical amplification section into a wavelength associated with ultraviolet light by using a nonlinear optical crystal, wherein

a width of the pulsed light generated from the laser light generation section is set wider than a pulse-width set for obtaining a predetermined wavelength width with the generated ultraviolet light.

9. (Previously Presented) An exposure apparatus as recited in claim 8, wherein the width of the pulsed light generated from the laser light generation section is about 2 ns to about 5 ns.

10. (Currently Amended) An exposure apparatus which illuminates a pattern of a first object with ultraviolet light from a laser device and exposes a second object with the ultraviolet light from the first object, wherein

the laser device includes:

a laser light generation section which generates laser light ~~of a single wavelength, the single wavelength being one of a plurality of wavelengths associated with light of a light range ranging from a visible light region to an infrared light region~~ having a single wavelength within a wavelength range ranging from an infrared band to a visible band;

an optical amplification section including an optical fiber amplifier which amplifies the laser light generated by the laser light generation section, a transmitting optical fiber which propagates the laser light amplified by the optical fiber amplifier, and a narrow band filter disposed between the optical fiber amplifier and the transmitting optical fiber; and

a wavelength conversion section which performs wavelength conversion of the laser light amplified by the optical amplification section into a wavelength associated with ultraviolet light by using a nonlinear optical crystal.

11. (Previously Presented) An exposure apparatus as recited in claim 10, wherein the narrow band filter is concurrently used as a wavelength division multiplexing device for multiplexing which feeds excitation light to the optical fiber amplifier.

12. (Previously Presented) An exposure apparatus as recited in claim 1, wherein

the laser light generation section includes an optical modulation section which pulse-generates the laser light and which sets a pulse-width of the laser light to be wider than a pulse-width set for obtaining a predetermined wavelength width with the ultraviolet light.

13. (Previously Presented) An exposure apparatus as recited in claim 12, wherein

the laser device includes an optical splitter which splits the laser light generated by the laser light generation section into a plurality of laser light beams, the optical amplification section is independently provided for each of the plurality of laser light beams, and

the laser device further includes a regulator which regulates an amplification gain of the optical amplification sections so that outputs of the plurality of laser light beams are substantially uniformalized.

14. (Previously Presented) An exposure apparatus as recited in claim 1, wherein the optical fiber amplification section is an erbium-doped fiber amplifier and uses laser light having a wavelength of about 980±10 nm as the excitation light for the amplifier.

15. (Previously Presented) An exposure apparatus as recited in claim 1, wherein a multilayer film filter or a fiber Bragg grating is used for the narrow band filter.

16. (Currently Amended) An exposure apparatus as recited in claim 1, wherein the laser light generation section includes a single wavelength oscillatory laser which generates the laser light ~~of a single wavelength~~ having a single wavelength within a wavelength range ranging from an infrared band to a visible band, and an oscillation-wavelength controller which controls an oscillation wavelength of the generated laser light to be a predetermined wavelength.

17. (Previously Presented) An exposure apparatus as recited in claim 1, wherein

the laser device further includes an optical splitter which splits the laser light generated by the laser light generation section into a plurality of laser light beams,

the optical amplification section is independently provided for each of the plurality of laser light beams, and

the wavelength conversion section performs collective wavelength conversion for a bundle of the plurality of laser light beams output from the plurality of optical amplification sections.

18. (Previously Presented) An exposure apparatus as recited in claim 17, further comprising a regulator which regulates an amplification gain of the plurality of optical amplification sections so that outputs of the plurality of laser light beams are substantially uniformalized.

19. (Previously Presented) An exposure apparatus as recited in claim 17, wherein the regulator changes the output of the excitation light used for the optical fiber amplifier in the optical amplification section.

20. (Currently Amended) An exposure apparatus which illuminates a pattern of a first object with ultraviolet light from a laser device and exposes a second object with the ultraviolet light from the first object, wherein

the laser device includes:

a laser generation section which generates laser light ~~of a single wavelength, the single wavelength being one of a plurality of wavelengths associated with light of a light range ranging from a visible light region to an infrared light region~~ having a single wavelength within a wavelength range ranging from an infrared band to a visible band, an optical splitter which splits the laser light into a plurality of laser light beams, a plurality of optical fiber amplifiers which respectively and independently amplify the plurality of laser light beams, a wavelength conversion section which performs wavelength conversion of the amplified laser light beams, and

the laser device includes a regulator which regulates an amplification gain at at least one of the plurality of the optical fiber amplifiers so that outputs of the plurality of laser light beams are substantially uniformalized.

21. (Previously Presented) An exposure apparatus as recited in claim 20, wherein the regulator controls an excitation-light generating light source which generates excitation light used in the at least one optical fiber amplifier.

22. (Previously Presented) An exposure apparatus as recited in claim 1, wherein

the laser light generation section generates single wavelength laser light having a wavelength of about 1.5 μm, and

the wavelength conversion section converts a fundamental wave output from the optical amplification section having a wavelength of about 1.5 μm into a wavelength associated with ultraviolet light of an eighth-order harmonic wave or a tenth-order harmonic wave and outputs the ultraviolet light.

23. (Previously Presented) An exposure apparatus as recited in claim 1, wherein

the laser light generation section generates a single wavelength laser light having a wavelength of about 1.1 μm, and

the wavelength conversion section converts a fundamental wave output from the optical amplification section having a wavelength of about 1.1 μm into a wavelength associated with ultraviolet light of a seventh-order harmonic wave thereof and outputs the ultraviolet light.

24. (Previously Presented) An exposure apparatus as recited in claim 1, comprising:

an illumination system which radiates ultraviolet light from the laser device onto a mask as the first object; and

a projection optical system which projects an image of a pattern of the mask onto a substrate as the second object.

25. (Previously Presented) An exposure method using an exposure apparatus as recited in claim 1, comprising using the ultraviolet light output from the laser device to perform alignment between the first object and the second object.

26. (Currently Amended) A method of manufacturing an exposure apparatus which illuminates a pattern of a first object with ultraviolet light from a laser device and that expose a second object with the ultraviolet light from the first object, comprising configuring the laser device by disposing, with a predetermined relationship,

a laser light generation section which generates laser light ~~of a single wavelength, the single wavelength being one of a plurality of wavelengths associated with light of a light range ranging from a visible light region to an infrared light region~~ having a single wavelength within a wavelength range ranging from an infrared band to a visible band,

an optical amplification section including plural stages of optical fiber amplifiers which serially amplify the laser light generated by the laser light generation section, and a narrow band filter and an isolator disposed between the plural stages of the optical fiber amplifiers, and

a wavelength conversion section which performs wavelength conversion of the laser light amplified by the optical amplification section into a wavelength associated with ultraviolet light by using a nonlinear optical crystal.

27. (Currently Amended) A method of manufacturing an exposure apparatus which illuminates a pattern of a first object with ultraviolet light from a laser device and which exposes a second object with the ultraviolet light from the first object, comprising configuring the laser device by disposing, with a predetermined relationship,

a laser light generation section which generates laser light ~~of a single wavelength, the single wavelength being one of a plurality of wavelengths associated with light of a light range ranging from a visible light region to an infrared light region~~ having a single wavelength within a wavelength range ranging from an infrared band to a visible band;

an optical amplification section including plural stages of amplifying optical fibers which serially amplify the laser light generated by the laser light generation section, an excitation-light generating light source which generates excitation light for at least one stage of the amplifying optical fiber of the plural stages of the amplifying optical fibers, at least one of a narrow band filter and an isolator disposed between the plural stages of the amplifying optical fibers, and a bypass member which passes the excitation light in parallel to the at least one of the narrow band filter and the isolator; and

a wavelength conversion section which performs wavelength conversion of the laser light amplified by the optical amplification section into a wavelength associated with ultraviolet light by using a nonlinear optical crystal.

28. (Previously Presented) A device manufacturing method including transferring a mask pattern onto a substrate by using the exposure apparatus as recited in claim 1.

29. (Previously Presented) An apparatus according to claim 12, wherein

the laser light generation section includes a single wavelength oscillation laser which generates the laser light of a single wavelength, and the laser light generation section pulse-generates the laser light by at least one of the single wavelength oscillation laser and the optical modulation section.

30. (Previously Presented) An apparatus according to claim 6, wherein

the laser light generation section pulse-generates the laser light and includes an optical modulation section which sets a pulse-width of the laser light to be wider than a pulse-width set for obtaining a predetermined wavelength width with the ultraviolet light.

31. (Previously Presented) An apparatus according to claim 6, wherein

the plural stages of the amplifying optical fibers include erbium-doped optical fiber amplifiers and use laser light having a wavelength of about 980±10 nm as the excitation light for the amplifiers.

32. (Previously Presented) An apparatus according to claim 7, wherein

the laser light generation section pulse-generates the laser light and includes an optical modulation section which sets a pulse-width of the laser light to be wider than a pulse-width set for obtaining a predetermined wavelength width with the ultraviolet light.

33. (Previously Presented) An apparatus according to claim 7, wherein

the plural stages of the amplifying optical fibers include erbium-doped optical fiber amplifiers and use laser light having a wavelength of about 980±10 nm as the excitation light for the amplifiers.

34. (Previously Presented) An apparatus according to claim 8, wherein

the laser light generation section pulse-generates the laser light by at least one of the single wavelength oscillatory laser and the optical modulation section.

35. (Previously Presented) An apparatus according to claim 8, wherein

the optical amplifier includes an erbium-doped optical fiber amplifier and uses laser light having a wavelength of about 980±10 nm as an excitation light for the amplifier.

36. (Previously Presented) An apparatus according to claim 10, wherein

the laser light generation section pulse-generates the laser light and includes an optical modulation section which sets a pulse-width of the laser light to be wider than a pulse-width set for obtaining a predetermined wavelength width with the ultraviolet light.

37. (Previously Presented) An apparatus according to claim 10, wherein

the optical amplifier includes an erbium-doped optical fiber amplifier and uses laser light having a wavelength of about 980±10 nm as an excitation light for the amplifier.

38. (Previously Presented) An exposure apparatus which illuminates a first object having a pattern with ultraviolet light and exposes a second object with the ultraviolet light from the first object, comprising:

an illumination optical system disposed on an optical path through which the ultraviolet light passes; and

a laser device optically connected to the illumination optical system, wherein

the laser device includes:

a laser light generation section which includes a single wavelength oscillatory laser and generates single wavelength pulsed light in a wavelength range of about 1.51μm to about 1.59μm;

an optical amplification section including an optical fiber amplifier for amplifying the pulsed light and being optically connected to the laser light generation section;

a wavelength conversion section including a plurality of nonlinear optical crystals for performing wavelength conversion of the amplified pulsed light into a wavelength associated with ultraviolet light and being optically connected to the optical amplification section; and

a suppressing section which suppresses expansion of a wavelength width of light originated in a nonlinear effect of an optical element of the laser device between the single wavelength oscillatory laser and the wavelength conversion section.

39. (Previously Presented) An apparatus according to claim 38, wherein the optical element includes at least the optical fiber amplifier.

40. (Previously Presented) An apparatus according to claim 39, further comprising a temperature control device which is connected to the wavelength conversion section and which controls a temperature of at least one of the plurality of nonlinear optical crystals.

41. (Previously Presented) An apparatus according to claim 40, wherein the plurality of nonlinear optical crystals include at least one nonlinear optical crystal used in NCPM (Non-Critical Phase Matching).

42. (Previously Presented) An apparatus according to claim 41, wherein the laser light generation section generates the pulsed light by at least one of the single wavelength oscillatory laser and an optical modulator.

43. (Previously Presented) An apparatus according to claim 42, wherein the laser light generation section pulse-generates light having a first pulse-width from the single wavelength oscillation laser and includes an optical modulator which generates the pulsed light having a second pulse-width narrower than the first pulse-width with the pulse-generated light.

44. (Previously Presented) An apparatus according to claim 38, wherein

the laser light generation section generates the pulsed light by at least one of the single wavelength oscillatory laser and an optical modulator, and

the apparatus further comprises an adjusting device connected to the laser light generation section for adjusting oscillation characteristics of the ultraviolet light generated from the wavelength conversion section.

45. (Previously Presented) An apparatus according to claim 44, wherein the oscillation characteristics include at least one of intensity, a central wavelength and an oscillation interval of the ultraviolet light.

46. (Previously Presented) An apparatus according to claim 44, wherein the adjusting device uses a detecting result of light having a wavelength different from the ultraviolet light.

47. (Previously Presented) A method of manufacturing an exposure apparatus which illuminates a first object having a pattern with ultraviolet light and exposes a second object with the ultraviolet light from the first object, comprising:

providing an illumination optical system to be disposed on an optical path through which the ultraviolet light passes; and

optically connecting a laser device to the illumination optical system, the laser device including:

a laser light generation section which includes a single wavelength oscillatory laser and generates single wavelength pulsed light in a wavelength range of about 1.51μm to about 1.59μm;

an optical amplification section including an optical fiber amplifier for amplifying the pulsed light;

a wavelength conversion section including a plurality of nonlinear optical crystals for performing wavelength conversion of the amplified pulsed light into a wavelength associated with ultraviolet light; and

a suppressing section which suppresses expansion of a wavelength width of light originated via a nonlinear effect of the optical fiber amplifier between the single wavelength oscillatory laser and the wavelength conversion section.